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Problems in Horticulture.

THE letter from Rev. Lyman Phelps, on another page of this issue, gives some facts which confirm his belief in the immediate influence of foreign pollen on the constitution and quality of the Orange. The fruit on other trees in groves where certain strains of the Navel and Blood Oranges are growing is changed, according to his observation, in general appearance, form and flavor, partaking of the qualities of the two varieties named. Of course, it is not demonstrated that the change does not come from variation in the bud; but no one is prepared to say, with certainty, that changes in a fruit are never due to the influence of pollen from another plant. Practical cultivators believe that, with fruits, as a rule, no such change need be expected. Some varieties of our native Plums, when planted by themselves, bear sparingly, because, as it is assumed, their ovules are imperfectly fertilized. When, however, these trees are planted near others which yield abundant pollen, a larger amount of fruit is set. It is supposed that this is due to the fact that pollen from surrounding trees is conveyed to the stigmas of the flowers of the native Plums. But no one expects to find any change in the fruit. The Wild Goose Plum remains the same, no matter where the pollen comes from. Certain varieties of Grapes are also more productive when planted near vines which yield abundant pollen, but the fruit remains identical with that from self-fertilized flowers. Elaborate experiments have been made by Mr. A. A. Crozier and others in crossing Apples, Grapes, Pears, Plums and Squashes, and in no instance did the influence of the foreign cross appear the first season, and yet, in the absence of direct proof, we must admit that here is a problem which is not completely solved.

For several months an energetic discussion has been carried on in English horticultural journals as to certain alleged evils arising from the practice of grafting. The positions taken on either side of the controversy show how widely at variance are the views of practical propagators on matters which may be of vital importance in the history of the plant treated. Incidentally, many related questions are suggested. At what age does a tree furnish buds or cions which will prove the most healthy, long-lived and productive? Will there be any difference in the result if buds or cions are taken from different parts of the same tree? Or, do buds taken from the leader of a nursery tree develop into trees which differ in productiveness or vigor from those originating in buds from side branches? Is there any difference, for grafting purposes, between the terminal bud and buds lower down; and how near the end of the shoot should we look for the buds which will make the healthiest tree? Questions like these are of practical moment. It seems to be admitted that improper selection of stock and cion will cause a deterioration of the plant, but many propagators have an opinion that buds and cions can be chosen and set so as to perpetuate the qualities we wish to retain. Can more than this be accomplished? In a late number of this journal, Professor Goff pointed out the fact that the Wilson Strawberry has improved under a system of propagation from offsets. In an address before the Pomological Society in Florida last winter, he also called attention to experiments at Geneva which seemed to show that potatoes can be improved by a certain method of selection. In view of these facts, it is not impossible that by some system of budding or grafting certain desirable qualities in plants can be actually increased.

But if it is assumed that the only hope of improvement in plants lies in the production of seedlings, a thousand other questions at once obtrude themselves upon us. If a seed which results from hybridizing or cross-fertilization is sown, what qualities are most likely to be transmitted from the pollen-parent and what ones from the mother plant? It has been suggested that a cross might be produced between *Prunus Simoni* and some of our varieties of the Peach with the possibility of securing a fruit of good quality that could be grown in more northern latitudes. In the same way, a cross between the Japanese Persimmon and our native Diospyrus might possibly yield a fruit approaching in size and quality the Japanese product, and equaling our native fruit in hardiness: In either case, which kind should we select as the pollen-parent with the greatest hope of success? Certain varieties of the Peach and Plum will come true from the planted pit; to what extent is it possible to secure the same result with Apple seeds, for example, from blossoms in which self-fertilization has been made certain? Some experiments by Dr. Sturtevant seem to indicate that Raspberry seedlings produce a better average quality of fruit when they originate from few-seeded berries than they do when they originate from many-seeded berries, and this suggests the advisability of making similar tests in other fields.

But there is no need of multiplying questions of this sort. What we desire to call attention to is that our knowledge of the principles which underlie ordinary horticultural practice is limited in every direction. Considering the nature of the subject, and the mystery which envelops all the processes of life, it is not surprising that we know so little, but it will be surprising if the spirit of awakened inquiry does not prompt students to more thorough and systematic investigation in this field than have been hitherto undertaken. There certainly is no lack of opportunity for our experiment stations to prove that they can be of practical benefit to all who have gardens and orchards.

How to Mask the Foundations of a Country House.—IV.

IT has been said that the color of their foliage, as well as their form, should be considered in grouping shrubs about the base of a house. The flowers which they bear likewise demand attention. A succession of bloom throughout the season should be secured, while the more common practice is to select only such plants as flower in early spring. Some favorite shrub, with very conspicuous flowers, like a Forsythia, is often repeatedly introduced in scattered positions, producing a restless, patchy effect of color that could be obviated by a little massing. It should be remembered, too, that a plant with pink or lilac blossoms will not often look well next

to one with yellow blossoms, while a white-flowering plant will harmonize with either.

Too much stress should not be laid, however, upon the flowering qualities of the shrubs as a whole. Qualities of foliage are more important, because more persistent, and because, after all, green is the color we chiefly want close to the house. A few evergreens are always desirable, but there should not be too many of them. If so, the summer-effect of the plantation will be sacrificed to the winter-effect; during the summer months it will have too stolid and heavy and gloomy a look. And even in winter this look is given by an over-use of evergreens. Leafless shrubs are beautiful, as well as those in leaf, and almost or quite alone can clothe foundation-walls to a degree that suffices when Nature at large is bare. Many deciduous shrubs have a peculiar charm in winter, while they do not fall behind their rivals at other seasons—Golden-twigged Willows, for instance, Red-twigged Dogwoods, and a multitude which carry their bright berries well through the inclement season. If some of these are selected, and evergreens are sparingly introduced, the effect of the winter shrubbery may be made extremely beautiful. Care should be taken, however, to mass the evergreens a little, so that when they are thrown into full relief by the fall of deciduous leaves they will not look as though spotted about at random; and a station quite near the walls is, for this reason, usually the best. If deciduous plants, with bright-hued leaves, are, as a general rule, to be avoided, so, too, in an even greater degree, are golden evergreens. It is especially desirable that whatever foliage we have in winter should be green; and a bright-yellow shrub has an even more distinctly spotty and obtrusive look in winter than in summer. The bright color of the twigs and berries on the deciduous shrubs just named is not open to the same objection, for the hue is then so delicate and airy that it cannot offend the eye.

The hardest task of all is to plant well around a house which is square in shape and encircled by piazzas. The absence of angles and recesses makes the grouping of plants very difficult, and it is difficult, too, to vary their upper outline agreeably when they cannot rise against a background of solid wall. Many suburban houses are built in this way, and are usually encircled by a line of flower-beds with annual creepers—Nasturtiums for choice—trained against the piazza-lattice and posts. A better device would be to plant hardy creepers against the posts, and very low-growing hardy shrubs elsewhere, grouping them with higher ones when an angle does offer, and carrying them out to meet higher plantations, if such can be placed a little to one side of the house. As very low-growing deciduous shrubs are so inconspicuous in winter, a freer use of evergreens may be recommended in cases of this sort. There are many kinds of Japanese Retinosporas, for instance, which grow from a foot to two feet in height, and are admirably adapted for the purpose. Anything hardy and anything green, however, is better than a flower-bed, which is too formal and too gaudy in summer, and which vanishes in winter, leaving that ugliest of all objects, a stretch of naked earth. Much pains and money are often expended, to very poor effect, in planting such beds. For example, we saw last May a large house flanked with piazzas, one side of which was bordered with, first, a thick line of bright Golden Elders, then a wide band of Iris in blossom, and then a broad bed, with a curving outline, filled with showy spring annuals. The first cost must have been considerable, and it was evident that more money and labor would soon be needed to replace the spring-flowers with others, and that when winter came there would be a wide, unattractive line of naked earth. And, meanwhile, the spring-effect itself was hideous in its formality and its gaudy, ill-arranged colors; and, far from uniting the house with its surroundings, the planting actually separated the two with a bolder, more conspicuous division than had there been nothing but green grass. Unity in color and variety in line were needed, but what was supplied was monotony alone and a crude diversity in color.

Naturally, however, a few flowers of certain sorts may sometimes be introduced with excellent effect on the edge of a shrubbery which encircles a house, or close to the house, between the masses of shrubs. Certain flowers of an architectural character, so to say, like Hollyhocks and Dahlias, Sunflowers and Gladioli, never look better than when growing against a wall, only there should not be many of them, and their places, as well as their colors, should be carefully chosen. Accents of color will be welcome, but the look of a flower-border should be avoided.

In selecting shrubs for the purpose now in question, one other consideration should be borne in mind. This is the natural character of the site. The foundations of a suburban villa on a flat piece of ground, which should rightly be treated as a carefully-tended little garden-landscape, and those of a cottage, we will say, on a rocky stretch of New England shore, should not be planted in the same way. In the one case, garden-shrubs will be appropriate; in the other, those native products of our woods and swamps, which are quite as beautiful, and almost as numerous. It would be undesirable to surround a villa with picturesque clumps of Mountain Laurel, Blueberry and Clethra, suggestive of really rural scenes; but such plants as these are just the ones to group about a picturesque cottage standing on a rocky site, and with Pines or other native trees in its vicinity. Of course, efforts are sometimes made to treat the whole extent of a place like this in the conventional, gardenesque way; and if the grounds, as a whole, are thus inappropriately managed, it matters little, perhaps, what is done with the house-foundations. But the tide of taste has turned. There is a growing desire to preserve the essential characteristics of a site, and to value them all the more if they are distinctly different from the regulation suburban type. And when this desire is felt, there is nothing more important than that, in clothing the foundations of the house, native local shrubs should be chosen instead of those appropriate to more conventional pleasure-grounds.

Miles Joseph Berkeley.

THE news of the death of Rev. M. J. Berkeley, the distinguished English mycologist, will be received with deep regret, not only by those specially occupied with the branch of botany in which he was pre-eminent, but also by all who are interested in the progress of horticulture and vegetable pathology, to which he constantly contributed during his long and busy life. He was born April 1st, 1803, at Biggin, in the parish of Oundle, Northampton, and, after a preparatory course at Rugby, entered Christ's College, Cambridge, where he graduated in 1825. Although destined for the church, he was much attached to the study of natural history while at the university. At first curate at Margate, in 1833 he assumed charge of two small parishes near Wansford, Northamptonshire, and was also rural dean of Oundle and Weldon. In 1868 he was transferred to the vicarage of Sibbertoft, a small village near Market Marborough, in which quiet and retired parish he passed the remainder of his life. During his later years he was a great sufferer from gout, and for some time had hardly been able to leave his house, or even his chamber. His death occurred on July 30th, at the ripe age of eighty-six years.

Berkeley's first work in natural history is said to have been on Mollusca, but his reputation rests on his wide knowledge of Fungi, in which he far excelled all his British contemporaries, and was a worthy rival of the distinguished Elias Fries, often called the father of mycology. His botanical work, however, was not confined to Fungi. In 1833 appeared his "Gleanings of British Algæ," a supplement to the English Botany, which is still regarded a classic work, and thirty years later he published a "Hand-book of British Mosses." His writings on Fungi were very numerous; a few of them in book form, but the greater part papers in botanical journals and the proceedings of learned societies. They were devoted especially to the descriptions of species from all parts of the world, for, such was his reputation as a systematist, that collections were sent to him for study from both continents—from the Arctic to Antarctic regions. The new species described by him must number several thousands. Of his books the admirable volume on Fungi in Hooker's British Flora, 1836, seems to us especially excellent. "The Outlines of British Fungology," 1860, was an attempt at a revision of the earlier volume with descriptions of the larger species and an enumeration of the smaller species. The "Introduction to Cryptogamic Botany," 1857, was the first general treatise on the subject in the English language, and contained a large number of original observations, especially with regard to Fungi.

Berkeley was for many years a frequent contributor to the *Gardeners' Chronicle* and the journal of the Royal Horticultural Society, to whose pages he gave many important original notes on plant diseases, besides many critical reviews of the work of others on this important subject. His contributions to these journals were often in a semi-popular form, and did much to extend the knowledge of a then much-neglected branch of botany.

The name of Berkeley is held in hardly less reverence by American botanists than by his own countrymen. For a period of nearly forty years after the death of Schweinitz, the first American mycologist, in 1834, scarcely anything was published on North American Fungi, except what came from the pen of Berkeley, who found a zealous correspondent and

fellow-worker in the late Rev. M. A. Curtis, of North Carolina. Not less than twenty-five papers, including these published conjointly by Berkeley and Curtis, contain notices of North American Fungi; the "Notices of North American Fungi" in *Grevillea*, 1872–76, alone having descriptions of over one thousand species, almost all of them new.

Berkeley was a man of a singularly sweet and frank nature, and, although, with advancing years and increasing bodily infirmity, he was forced to live in retirement, he was still the leader of British mycologists, beloved and respected by all. Those who knew him in his prime, or even in his declining years when unable to associate freely with scientific men, as was his wont, recall his unvarying courtesy, his constant readiness to aid others in their studies, his simple and cordial manner. With a large family, forced to depend on the modest income of a remote parish, we are compelled to admire the courage and energy which enabled him to accomplish so much for science, and only regret that he had not been placed early in life in some position where he could have devoted his whole activity to the pursuit of his favorite science.

Berkeley's personal appearance was very striking. His large frame, his dignified and intellectual face, admirably set off by his full, white beard and flowing hair, commanded at once the respect, which an acquaintance with his elevated character and unselfish disposition served only to deepen.

W. G. F.

The Fairbanks House at Dedham.

OUR picture on page 415 shows a house in the town of Dedham, near Boston, Massachusetts. It is one of the oldest houses in this country which is still intact and habitable, and undoubtedly the very oldest in which descendants of its builder live to-day. The builder of this house was Jonathan Fairbanks, a native of the West Riding of Yorkshire. He landed in America in the year 1633, lived for three years in Boston, and then built the house we illustrate in the year when the town of Dedham was incorporated. At his death, in 1668, he left it to his eldest son, John, and his offspring in the male line have since uninterruptedly inhabited it. The seventh generation now dwells within its venerable walls, and the care and good taste they display in its preservation are exceptional in this land of little respect for ancient relics and too-frequent desire for showy surroundings rather than for those which are harmonious and therefore beautiful.

The original house has never been altered, but now forms the central portion of the picturesque little group of walls and roofs. The wings were added about one hundred and fifty years ago, and although, perhaps, no conscious desire for good, architectural effect guided their designing, their presence greatly increases, instead of injuring, the charm of the simple first building The shingled roofs, of course, have been repaired from time to time, but only as necessity compelled, and without disturbance of the weather-stains and lichens, which give a beautiful greenish tone that contrasts delightfully with the soft, unpainted gray of the walls. The house stands a short way back from the road, raised on a gentle little hill. This is covered with good turf, kept sufficiently neat, but not rolled and tended as a lawn might be about a more pretentious residence. A number of great Elm-trees overshadow the slope and the house itself, disposed in an irregular way, which under the circumstances could hardly be improved upon. They must be nearly if not quite as old as the house itself. The simple dignity of effect produced by this use of a single kind of tree, especially well adapted to its purpose, may teach a useful lesson to the owners of the villa and cottage of to-day. Now it is the custom to plant a variety of trees even when the grounds are as small as these of the Fairbanks house, and little thought is usually given to their grouping. Consequently we most often see a huddled, inharmonious result, in which the beauty of the individual trees disappears, and the place as a whole is deprived of character as well as of unity. But even when most carefully grouped it is a question whether the association of different trees in a very small place could be quite as beautiful—quite as simple, dignified, and harmonious—as is this company of wide-spreading Elms, so thoroughly expressive of shelter and of shadow, and each so admirably developed.

But perhaps the most noteworthy point in the attractive picture presented by this house and its surroundings is the way in which the shrubberies grow about it. Lilacs and other old-fashioned shrubs were planted long ago close to the foundations, and have been allowed to develop freely while kept from undue raggedness. Now, as will be seen, they overtop the humble walls in many places and group with the sloping roofs in a fashion which must strongly attract the eye of every wandering landscape-painter. In summer, tall Hollyhocks and Dahlias grow in clumps close to the house, giving just the notes of brilliant color needed to complete the pretty picture it makes; but no formal beds or flaunting, "new-fashioned" flowers are allowed to introduce a discordant accent. No old English cottage seems a more integral part of its natural surroundings than does this little New England home, and none is more picturesque than this despite its characteristically American shape and material. Time, we see, can sanctify and beautify even a wooden house of the humblest proportions, if only the hand of man gives it a little aid in the way of tastefully planted trees and shrubs, and then does not interfere with its work. Here no inharmonious element has been introduced—each feature and detail suits all the others, and the general effect, although it is simply that of a small, unpretentious farm-house, lacks neither refinement nor true beauty. A single bed of Coleus, a single attempt to prune the luxuriant shrubs into a more "orderly" form, a single touch of crude paint on the house itself, a single architectural "improvement" of modern fashion, would ruin it all. Fortunately, nothing of the sort has ever been attempted; and it is to be hoped that, even when descendants of Jonathan Fairbanks no longer dwell beneath his roof-tree, he into whose possession it may come will prove himself possessed of as much reverence and good taste as they. So scarce and precious, indeed, are relics such as this in America that the town-fathers of Dedham might well desire to take it under their own protection, to assure preservation for as many centuries as its sturdy timbers can still endure.

The photograph from which our illustration is reproduced was made by Miss A. L. Rotch, to whom we are indebted for its use.

Notes Upon Some North American Trees.—VII.

125. Cratægus arborescens, Ell.—This name was published by Elliott (Sketch of the Botany of South Carolina and Georgia, i., 550) in 1821. Linnæus' herbarium, however, shows that he knew this plant, and that it is his *Cratægus viridis* (Species Plantarum, 476). The specimen is in flower. It has no thorns, and exactly represents the common glabrous form of this now well-known plant. An almost identical specimen is found in the herbarium of the "Hortus Cliffortianus" preserved in the British Museum. Professor Gray, who examined the Linnæan herbarium in 1839, wrote in pencil on the sheet of *C. viridis* "certainly a distinct species, A. Gray," having reference to the fact that *C. viridis* has been referred by American botanists to *C. coccinea*. The fact, however, of its identity with Elliott's plant, at that time very little known, seems to have escaped his notice. It is not clear from whom Linnæus derived his specimen. The species is credited in the "Species Plantarum" to Virginia, but this tree is not known to grow now anywhere north of the valley of the Savannah River. Dr. John Garden, who lived in Charleston in the middle of the last century, was the only correspondent of Linnæus who resided anywhere near the locality where it is now known; and there is nothing to show that the specimens were sent by him. It is not altogether improbable, although rather unlikely, that the plant which has been called *Cratægus arborescens*, but to which I propose to restore in the Silva the Linnæan name, may extend as far north as the coast-region of Virginia, and that it was really from Virginia that the specimens upon which Linnæus founded the species were sent.

127. Cratægus coccinea, L.—The Scarlet Thorn is the most variable, within certain limits, and the most widely-distributed of the North American species. Two or three extreme forms appear at first sight to represent as many different species; but these pass, however, one into the other, and it is not always easy to distinguish them. Certain characters, however, are constant; and the brown bark of the young branches, the long, stout, and usually abundant chestnut-brown spines, the prominent glands on the serratures of the stipules and leaves, on the peduncles and acuminate calyx-lobes, and the bright scarlet fruit, always pendulous at maturity, are common to all the forms, and serve to distinguish *Cratægus coccinea* from *C. tomentosa* with which it has often been confounded. The stipules are

lanceolate and narrowly acuminate but on vigorous shoots often become broadly ovate and cordate. The number of styles varies from two to five, but the fruit except in shape and size, and in the number of seeds, which are strongly ribbed on the back with two deep grooves, is very much alike in all the forms of this species.

The principal forms may be arranged as follows :

1. Var. TYPICA, with rather small sharply serrate, or somewhat cut-lobed leaves, cuneate at the base and pubescent on the lower surface especially on the mid-rib and primary veins; few-flowered, pubescent corymbs of small flowers (half an inch across) with pubescent calyx, and round or sometimes pear-shaped fruit rarely more than half an inch in diameter.

2. Var. POPULIFOLIA, with more slender spines, thin, glabrous, sharply serrate, somewhat incised leaves, often truncate or slightly cordate at the base, borne on slender petioles, and small glabrous, or occasionally hairy three to five-flowered, small, narrow corymbs.

3. Var. MACRACANTHA, with very long, stout spines, thicker leaves, cuneate at the base and tapering into a stout petiole, sharply serrate, and incised above the middle, slightly pubescent on the lower surface when young or quite glabrous or with a few scattered hairs on the mid-rib and primary veins; broad many-flowered, pubescent cymes, and rather larger flowers and fruit than in number one.

4. Var. MOLLIS, with densely pubescent shoots, large-broad leaves, usually incisely cut into acute, narrow angulate lobes, cuneate, truncate or heart-shaped at the base, often somewhat scabrous on the upper surface, the lower more or less densely covered with pubescence, broad pubescent cymes, with large flowers (one inch across) and large spherical or pear-shaped, sometimes punctate fruit covered with a white bloom.

What I consider the typical form, that is the plant, which, as shown by his herbarium, Linnæus had before him when he established the species (Species Plantarum, 476), is common, from Newfoundland to Florida, and extends west to Minnesota, Missouri and Texas. It is the common Thorn in the valleys of the southern Alleghany Mountains and is not rare in the Gulf States. The leaves are sometimes quite glabrous. This is usually a stout, tall, or even a small shrub with intricate branches, or more rarely a small tree.

Var. POPULIFOLIA, Torr & Gray, Fl. i., 465 (*C. populifolia*, Ell. Sk., i., 553), appears to be confined to the south Atlantic States, although forms intermediate between this and No. 1 are found everywhere. It was described by Elliott as a shrub with slender branches, but I have never seen it growing; and I am not acquainted with the fruit I have flowering specimens collected by the late Dr. Ravenel at Augusta, Georgia; and Curtiss' *C. coccinea*, No. 807, collected in Alachua County, Florida, belongs here.

Var. MACRACANTHA, Dudley, "Cayuga Flora," 33 (*C. glandulosa*? Willd.), is widely distributed from the valley of the St. Lawrence to Manitoba, Colorado, and the western slopes of the Cascade Mountains in Washington. I have not seen it anywhere south of New York and Missouri. It is a small tree or shrub, with long, straggling branches, thickly armed with sharp spines often four to five inches long, and in the west, with thick almost coriaceous leaves. It is confounded in the eastern States, especially in New England, with *C. tomentosa* to which have been referred generally the red-fruited Thorns of the western Mountains, which all belong here.

Var. MOLLIS, Torrey & Gray, Fl. i, 465 (*C. subvillosa*, Schrader), is found from eastern Massachusetts, through western New York to Missouri and middle Tennessee, and south-westward through Arkansas and Texas to the Sierra Madre Mountains of northern Mexico. It seems to be wanting from the South Atlantic and Gulf States east of the Mississippi, and from the whole Alleghany region. This is the largest of our northern Thorns, and one of the largest of the genus, often reaching a height of thirty feet, with a clean, straight trunk and a wide, round head. The leaves vary greatly in the amount of their pubescence, being at the east sometimes nearly glabrous, while the amount and density increase in proportion as the climate of the region in which the individual has grown, is deprived of moisture. This variety flowers fully a week earlier than the other forms of the species, and the fruit which falls as soon as it is ripe is several weeks earlier. The eastern, or less densely-pubescent form, is very well figured in Emerson's "Trees and Shrubs of Massachusetts" 2 ed, as *C. tomentosa*. Nos. 1, 3 and 4 may be seen growing together in the space of an acre, close to the north shore of Massachusetts Bay, in the town of Revere, and their different habit and appearance, contrasted. At this place the three forms are well marked and show no tendency to vary among themselves. In Berkshire County, on the contrary, where all three grow in great abundance, they have so inter-bred that it is almost hopeless to try to separate them.

C. S. Sargent.

New or Little Known Plants.

Tigridia buccifera.*

OF the discoveries made by Mr. Pringle last year in the mountains of Mexico there has already been figured in the GARDEN AND FOREST (Vol. I., Fig. 61) a new species of Tigridia belonging to the typical *T. pavonia* group. We now offer one of the *Beatonia* section, which are distinguished by smaller and more or less purple instead of orange flowers, and by minute terminal stigmas. From *Nemastylis*, which the species greatly resemble in habit, they differ in the inequality and dissimilarity in form of the outer and inner segments of the flower, and in the position of the styles, which are here opposite to the anthers, instead of alternate with them.

In the present species the flower is nearly two inches broad, with the saucer-shaped base, formed by the broad concave bases of the segments, of a pale, greenish-yellow, dotted uniformly with purple. The obovate blade of the outer segments is a clear light purple. The shorter inner segments are very peculiar in shape, being folded together in such a manner as to form a sunken longitudinal tube down the centre, the dilated sides at the outer end of the tube approaching each other in the form of two cheek-like prominences. These are colored white, purple and yellow, while the small, rounded, terminal blade is a deep purple. The anthers are erect and nearly sessile upon very short united filaments, the cells of each anther separated by a broad connective, as in some species of *Nemastylis*. The styles are closely united nearly as high as the top of the stamens, where the conical branches suddenly diverge, and are exserted in pairs between the anthers.

The flowers, as is frequently the case with plants of this order, are quite fugacious, lasting at the longest only for a single day. But while they last they are remarkably pretty, and a succession from the several spathes of one or two flowers each day is assured for several days. The drawing is a very faithful representation of a plant which bloomed in Cambridge in July of this year from bulbs collected by Mr. Pringle, in 1888, in the mountains of Jalisco, Mexico, and received from Mr. F. H. Horsford of Charlotte, Vermont.

S. W.

Foreign Correspondence.

London Letter.

THERE were very few Orchids sent to the Committee of the Royal Horticultural Society at its last meeting, and the only one certificated was a lovely variety of the rare *Sobralia xantholeuca*, which has been named Alba, although it is not pure white. In the original the flowers are pale yellow with a deeper colored lip, and sometimes flushed with lilac. In this new variety the sepals and petals are very faintly tinted with

*TIGRIDIA BUCCIFERA.—Stem a foot high, from a small bulb, branching, glaucous; radical leaves nearly as tall, plicate, three lines broad, the cauline bracts (three) more or less foliaceous; spathes of two unequal bracts one and a half to two inches long; perianth two inches broad, with purple-dotted, greenish-yellow base, the blade of the outer segments obovate, purple; inner segments tubular-folded in the centre, the dilated sides below the small, concave-rounded, deep-purple blade approximate in two cheek-like prominences; anthers nearly sessile, with broad connectives; styles as long, the conical branches widely divergent, exuded between the anthers.

sulphur-yellow, but the lip is primrose-yellow. The large size of the flower, equalling that of the common *S. macrantha*, and the graceful evergreen foliage render this one of the finest Orchids in cultivation. Two very pretty forms of Cattelya Eldorado were noteworthy. One named Painted Lady, from Sir Trevor Lawrence, had the sepals and petals snow-white, the labellum deep orange-yellow in the throat, and adorned with a small crimson-magenta blotch at the lip. The other form was named *Albo-splendens*, in which the lip was more highly colored. The variety named Wallisii, which is quite white with the exception of a yellow throat, was also shown. These Eldorado Cattleyas are particularly valuable, as they always flower at this season when Orchid bloom is scarce. *Dendrobium revolutum*, a small inconspicuous flowered species, but interesting botanically, was awarded a botanical certificate, as was also *Maxillaria fuscata* with reddish-brown flowers not unattractive.

One of the most important certificated plants was the new *Spiræa gigantea*, a hardy herbaceous plant from Kamtschatka, and said to be a form of *S. Kamtschatica*. It is a noble plant, rising with a stout erect stem fully eight feet high, clothed with large vine-like leaves nearly a foot across, and terminated by a long plume-like cluster of white blossoms after the manner of *S. venusta* or *S. Ulmaria*. It will be a grand addition to our list of plants that thrive on damp soil, by the margin of a stream or lake, and no doubt it will prove quite hardy with you. It was shown by Messrs. Paul, of Cheshunt. Another first rate new hardy plant was Späth's variety of the Siberian Dogwood (*Cornus sibirica Späthii*), shown by Messrs. Veitch. It is one of the most striking variegated shrubs I have seen, the leaves being of a bright yellow, broadly margined and marked with various shades of pale green. It showed no traces of sun burning in the foliage, so common among bright-leaved shrubs. In view of the hardiness and vigor of the Siberian Dogwood, this variety will most likely prove as valuable for ornamental planting as any variegated shrub we have, and will be hardy, no doubt, in America. A good addition to single Bouvardias we have in the new sort, Mrs. Robert Green, shown by Mr. May, one of the leading market florists about London. It is a sport from the President Cleveland variety and possesses all the good points of that popular sort. It is dwarf and vigorous, and produces large and abundant trusses of salmon-pink flowers—a tint different from that of old sorts. It will be a good plant both for market-grower and general gardener. Two exceptionally handsome new ferns worthily won certificates. One was a pendulous form of the common *Pteris serrulata*, named Plumosa. It has long fronds, crested or tasselled at the extremities, which hang in a graceful way on all sides of the pot, which is quite hidden by them. It is sure to become popular both for pots and hanging baskets. Mr. Coleman, of Tunbridge Wells, exhibited it. The other fern was *Cyrtomium falcatum Fensomi*, a handsome form of a well-known green-house fern, having bold, deep green, shining fronds. All the above were novelties, but a certificate was also voted to the old *Bignonia Cherere*, from Guinea, so as to emphasise the merits of a green-house climber, which was formerly more commonly grown than now. It is a strong climber with large foliage, and produces, at this time of the year, huge clusters of long trumpet-shaped flowers of a deep maroon crimson. The specimens came from Sir George Mackay's garden, one of the most beautiful in Surrey, teeming, as it does, with a wealth of beautiful plants out of the ordinary run. The lovely *Bignonia* (*Tecoma*) *jasminoides*, also a green-house climber with large clusters of trumpet flowers, white, with carmine centres, was also shown in perfection from the same garden.

Fig. 125.—Tigridia buccifera.—See page 412.

An important exhibit was that from Mr. Anthony Waterer, of Knap Hill, consisting of about a score of seedling varieties of *Lilium auratum*, all different from the original form, and varying in color from a rich crimson to pure white minutely

spotted with crimson. The finest forms were those much like the magnificent *L. Parkmanni*, raised in America about twenty years ago by Mr. Francis Parkman, and whose stock passed into the hands of Waterer. It has not, unfortunately, been put into commerce yet, so that lovers of Lilies have a treasure in store for them. A few of the seedlings now exhibited so much resemble Parkman's that they would pass for them, and perhaps they have the same parentage which is *L. auratum* crossed with a deep crimson form of *L. speciosum*. From these Parkmanni types of seedlings, all having petals tinted and spotted with deep crimson and edged with white, there was every gradation to the forms with white petals thinly spotted and not possessing the characteristic golden band of *L. auratum*. One was similar to, if not identical with, the variety Rubro-vittatum, which is still a rarity. Every one of the seedlings was beautiful, and we must look forward to the time when Mr. Waterer will be able to put them, together with Parkman's Lily, into commerce. Some of the seedlings would undoubtedly have been certificated by the committee if the regulation number of flowers (three) had been shown instead of one.

A group of ornamental trees and shrubs from Messrs. Veitch's Coombe Wood nursery included the following noteworthy kinds: A variety of the Hemlock Spruce (*Tsuga Canadensis*), named Argentea, with the tips of the branches of a silvery hue, though not so pronounced as in other conifers with variegated foliage. A more effective conifer was a golden form of *Retinospora pisifera*, in which the whole of the foliage, both old and new, is of a rich yellow tint. It is a favorite plant among those who have a special liking for gold and silver conifers. The golden variety of *Ulmus Dampieri* was shown in bright condition and displayed well the peculiar erect growth of this Elm. A much admired shrub was the cut leaved, scarlet-berried Elder (*Sambucus racemosa serratifolia*), which, as yet, is not generally known. The elegantly cut leaves, combined with the clusters of brilliant red berries, make it a most beautiful shrub, and, on account of its hardiness and vigor, it may be planted in any locality. But it is to be regretted that this beautiful plant does not produce berries in the south as freely as it is does in the cool and moist parts of Scotland, and I imagine that your hot and dry summers are detrimental to the fruiting of this shrub in America also. Among other good things shown by Messrs. Veitch, were *Ceanothus azureus albicans*, with feathery clusters of whitish blossoms as plentiful as in the blue Gloire de Versailles; *Veronica ligustrifolia*, a narrow-leaved New Zealand shrubby Veronica; *Clematis coccinea* and *C. crispa*, the latter with flowers larger than those of *C. coccinea*, and of a pale purple; *Cytisus nigricans*, one of the best of midsummer dwarf shrubs, having long, slender spikes of yellow flowers; a dark-leaved variety of *Spiræa callosa*, called also Sanguinea, and *Philesia buxifolia*, a beautiful little Chilian shrub with flowers like a miniature Lapageria, which is almost hardy in the south of England.

Some of our florists are doing their utmost to anticipate autumn by showing us autumn flowers at midsummer. One showed a new early flowering Chrysanthemum with large lemon-yellow flowers named Mdlle. Leonie Lassali, and another exhibited a large gathering of Cactus-flowered and single Dahlias. Among the best Cactus sorts that flower early are Panthea, bright orange-scarlet; Zulu, blackish-crimson, and Mrs. Hawkins, yellow, flushed with pink. The single Dahlias represented some of the new picotee-edged sorts which were much admired last year. Among the best shown by Messrs. Cheal were Duchess of Albany, with fawn-colored petals, edged with mauve; Victoria, white, edged with scarlet, and James Scobie, yellow and scarlet. These new combinations of colors may revive the waning popularity of single-flowered Dahlias.

W. Goldring.

Cultural Department.

Some August-Flowering Shrubs.

THE Japanese *Hydrangea paniculata* in this latitude blooms for nearly a month from the middle of July. It has few sterile, showy flowers, but its large panicles of perfect blossoms with their stamens are much more pleasing when closely examined than the great panicled variety (*H. paniculata grandiflora*) of which it is the parent. The flowers of the Grandiflora variety, which are nearly all sterile, begin to turn white as *H. paniculata* is about done flowering, and from the middle of August until well into September it is the most conspicuous feature of many modern New England gardens and country places. As they become old the large, dense panicles assume a pinkish hue, and they are often collected and carefully dried for winter adornment of the house. These plants like care and good cultivation, as they degenerate and become straggling if planted in poor soil and not cared for, or if early spring pruning is neglected.

The many varieties of the Althea, or Rose of Sharon (*Hibiscus Syriacus*), are popular August and September-flowering shrubs. They are shrubs which seem to thrive very well in small yards of city dwellings as well as in more open gardens. They are, as a rule, remarkably free from insect pests or disfigurement by fungus diseases, and they retain their smooth, shining, dark green leaves until late autumn. It would be almost useless to name varieties here, as the names and descriptions given in catalogues are so conflicting, but varieties with single or double white, purple, red, pink and variegated flowers are offered, and of these the single-flowered varieties are the most beautiful. The blossoms are odorless. In the climate of Boston the plants are not hardy if planted on low or wet ground, where growth is continued too late in the season and the wood does not get thoroughly ripened before severe frosts occur. If planted on dry ground, growth will not be so rapid, but success and hardiness may be assured. For fragrance as well as beauty, the terminal white racemes of flowers of the Sweet Pepper Bush (*Clethra alnifolia*) are the most prized at this season. Plants growing in moist, shady woods often continue blooming freely in September. *Clethra acuminata* from the mountains in the Southern States is hardy, and blossoms with our native species, but is not as attractive. Although seldom seen in gardens, both species are easily cultivated, and will do well in those regions where plants of the same class grow spontaneously.

While some species and varieties open their first flowers earlier in the summer, the low-growing Heaths are also reliable bloomers in August. Double, white, red and other varieties of the common Heath or Ling (*Calluna vulgaris*) are now cultivated, but they are almost unknown in American gardens. In this latitude they require a slight covering of leaves, coarse hay, or evergreen branches to protect them from the direct rays of the sun and the consequent alternate freezing and thawing which is so fatal to so many plants. Among other species of the family in full bloom the best are *Erica vagans*, *E. stricta* and *Dabœcia polifolia*. These are more tender than *Calluna vulgaris*, but generally do very well when given the same protection. The story is often told by immigrants, or those who loved their native "moors" in the "old country," of their efforts to introduce the Scotch Heather or the Heath about their new homes, and the instances are rare when their treasures have grown and thrived. A limestone region, or a clay soil and limy water is often the cause of failure, for most plants of this family, Droseras, Sarracenias and some others, rarely flourish in districts where there is much lime.

There are two types of Tamarisk which bloom freely in Boston and vicinity, although they are by no means common in gardens. There is much confusion in their nomenclature. Plants of the first type pass under the names of *Tamarix Africana*, *T. Gallica*, *T. Anglica*, *T. tetrandra*, *T. elegans* and *T. parviflora*, and all flower at about the same time, in the latter part of May and in June. If they have specfic differences, they are so slight or inconspicuous to the general observer as to be unnoticed in the garden.

The second type is the most desirable. It comes into full bloom about mid-August, and then the masses of delicate, tiny, pink buds and blossoms among the fine foliage are v ry beautiful, and, when well grown, the whole aspect of the plant is unsurpassed in gracefulness by any other shrub at this season. This is the *T. Indica* of some writers, but, among other names, it is often found in commercial catalogues under the name of *T. Chinensis*. In the climate of Boston it is hardy where not too much exposed, and thrives best in a porous soil, especially in the vicinity of water. It will grow fifteen or twenty feet high, and, if cut back occasionally, it becomes wide-spreading and bushy. When planted in masses it gives a soft, pleasing effect, even when not in bloom.

On account of their minute leaves and pliant branches and stems, the Tamarisks are well adapted to withstand severe storms, and, for this reason, they are much planted along banks and sea-coasts in southern England, where they may be called evergreen. They are also much planted on the Bermuda Islands, where the fine, dense foliage is said to form a perfect shelter against the strong winter gales. They are among the best sea-side shrubs in this country. The Tamarisks are propagated more easily than Willows, and cuttings readily take root in any ordinary moist soil.

The shrubby Potentilla (*P. fruticosa*), with its yellow blossoms averaging nearly an inch across, has the merit of giving

very few of its flowers during June and July, and of making a more extensive show in August. It is at home all over the temperate parts of the northern hemisphere, and, although it is not a plant of great value in small gardens, it is very useful and ornamental as an undershrub in larger places, or in parks and woodlands.

Jamaica Plain, Mass. *J. G. Jack.*

Native and Japan Plums.

SINCE the introduction of the Wild Goose Plum there have been many attempts to improve it, and other American varieties, but as a market fruit nothing has yet been produced to supersede it. If the Mariana ripened its fruit as early as it was represented to do, while being disseminated, it, no doubt, would be more profitable; but such is not the case, for while scattered specimens color up a little in advance of the Wild Goose, it spreads its time of ripening over a greater period, the main bulk of its fruit coming in at the same season. Nor is its quality as good, and it therefore brings a lower price. The tree is much better in form and habit, though, and, in my judgment, the chance for improvement, by crossing this with other desirable varieties, is better than it is with the other. The Mariana is valuable as a stock on which to work other varieties, being almost entirely free from the annoying habit of suckering from the roots. This is especially valuable in districts infested with the Peach yellows (assuming that such a disease exists), because Plums are often worked on Peach stocks. Cuttings of the Mariana grow about as readily as those of the Orange Quince.

Lone Star, a Texas variety, ripens about with the Wild Goose, and when fully matured is nearly as good in quality, but as a market Plum is less desirable. Robinson, another Chickasaw Plum, ripens immediately after Wild Goose, but is smaller, and much inferior every way, except in productiveness. It is extremely prolific. The Newman, an older variety —also Chickasaw—approaches the Wild Goose nearest in all respects—except in time of ripening—of any other variety. It is a week or ten days later, a heavy yielder of fine-sized, bright-red fruit, which places it second in value as an orchard variety with me. Among the Chickasaws that have little or no value, commercially, I would name Cadd, Chief, Early Red, Yellow Transparent, Hattie, Arkansas Lombard, African, Coletta and Jennie Lucas.

Of the Americana type, Purple Yosemite and Deep Creek are the only two that have proven satisfactory and profitable here. The trees of all the other varieties of this type on my grounds go down under our hot suns, blighting in the same way that Pear-trees do. There are some cross-breeds—neither true Chicasa or Americana in type, such as Wayland, Golden Beauty, Moseman, Miner, Forest Garden, Forest Rose, Reed and Indian Chief—that are perfectly hardy in tree and produce abundantly of fruit, varying in size, color and quality; but the season of their ripening tends to render them much less profitable than the Wild Goose, since they come some time after that variety, when Peaches are plenty in the market. To the grower there is a world of difference between four cents a quart and fourteen cents a quart, which last-named figure my Wild Goose Plums, in ten-pound baskets, readily brought in Baltimore market this season.

There are but three of the Japan varieties fruiting with me yet. Ogon is first to ripen; color, yellow; size, medium to large; quality, fair; not productive. Botan ripens with Wild Goose; large, red; quality, very good; very productive, trees bear quite young. This variety promises to be profitable. I am strongly of the opinion that it has been sold under the name of "Abundance," in New Jersey. For the honor of the trade, let us hope that the deception was unintentional. Kelsey is full of fruit for the first time, and at present looks as though Peaches would be pretty well out of market before it gets in. The trees go through our winters here unharmed, not even the terminals of small branches being injured.

Denton, Md. *J. W. Kerr.*

The Fairbanks House at Dedham.—See page 411.

Asparagus from Seed.

I LIVE in a locality not specially favorable to the growth of Asparagus, though much attention is given to planting new beds in sheltered spots in hopes to secure early cuttings. During the past forty years there have been changes in the method of its culture, and growers are still looking for improved methods. The first beds were planted here by dropping seeds in holes six inches deep, about one foot apart each way. Such a bed of three acres, now forty-two years old, is still in bearing.

The uplands are not sending Asparagus to market; it seems to flourish best in sandy loam near the river, where water can be reached from twelve to twenty feet below the surface. This would seem to indicate the necessity of water. The best stalks

I have seen I have discovered in such localities. Last season six or eight such sprouts I saw in a square foot of ground, self-sown, no doubt; and in the fence-row, which had been undisturbed by plow for many years and without manure in that time, I never saw so many fine sprouts grouped together. These things point to the conclusion that what Asparagus needs is not deep culture, salt or manure, so much as a comparatively undisturbed growth, both of sprout and root, with mulching. Whether fertilizers will supply the drain on the plant by the removal of sprouts repeatedly in spring cuttings is still a problem.

In watching the results of all present methods that are practiced in the culture of Asparagus, this course of nature has been followed imperfectly, if at all. Asparagus is found near the salt water, not for the salt, but for the water and for undisturbed root-growth. Secure this in the garden and the conditions will be perfect; and this is what I have set out to accomplish. In my newer plantings, seed is drilled thinly in rows one foot apart; the rows being in pair four feet apart; these double rows are covered with strawy horse-manure in summer after cutting is done; this is to remain on the row as a mulch during the winter, and in the early spring is covered up on the rows with dirt thrown up from the spaces with a plow. After cutting is over, the dirt is again brought back into the spaces with a hoe, the rows are again mulched, and the rotation is complete. By this method of cultivation the crowns are undisturbed, and the roots, which run deep, are not injured by plowing in the spaces; the plant is mulched with fertilizing material eleven months in the year. In the summer months the weeds are kept down by the same means, and in the spring the rotted mulch is again returned to the spaces to enrich the soil after doing duty over the crowns at the time of cutting. The Asparagus is thus cultivated in a compact row, and the crowding of shoots does not of necessity mean small ones, as has been shown by its growth in the uncultivated state and in my experience.

I have seen two beds ruined by using a plow or cultivator over them to kill out grass and weeds, and these beds had been planted deeply with this in view. But the crowns were cut off, and the beds become thin and cuttings small and unprofitable. By the method here described, the seed is planted where the plants are to grow; there is no transplanting. The spaces between rows can be cropped for the first two years, and cutting may begin in the third year, after which the spaces should not be cropped. For the location of such a bed choose a spot now that is as free as possible from weeds, manure heavily this fall and again in the spring, plowing no deeper than usual. This is all the preparatory work needed.

West Springfield, Mass. *W. H. Bull.*

Notes on Wild Flowers.

Pogonia pendula, now nearly out of flower, is a delicate little Orchid, growing only three to six inches high, from a small bulbous root, and bearing several small white or pale pink drooping flowers. The plant is not a showy one, but the flowers are very delicate and pretty. It is one of our rarest species, and, as its natural location is on high ground, it may be easily grown in loamy soil in the shade.

Zephyranthes longifolia, one of the Mexican Amaryllises, is now in flower. The plant comes from a small bulb half an inch or more in diameter, and usually grows from six to ten inches high, bearing, on short stems, a light yellow flower. The leaf is long and grass-like, and the flowers are not very large. The bulbs are easily wintered in dry earth in the cellar.

Allium scaposum, a plant of the Onion family now in flower, is about one foot high, bearing an ample umbel of light pink or white flowers, which are quite pretty. The bulbs are, probably, tender, and should be wintered in a cellar.

Habenaria psycodes, one of the purple-fringed Orchids, is now blooming. The usual height of this plant is about two feet, but it varies much according to its location. In the shade it is taller, more slender, and the flowers much paler than in the open sunlight. The spike of pinkish-purple flowers is often ten inches long, fragrant and very showy. It comes late in the season, when most other northern Orchids are past flower, and the flowers are quite durable. It likes moist soil and, though not strictly a bog-plant, it will thrive on the borders of bogs, and also on higher ground that is moist. When planting it on upland soil, unless quite wet and springy, plenty of peat or leaf-mould is needed about its roots, and also a mulch, or else it should be placed in the shade.

The Dwarf Cornel or Bunch Berry (*Cornus Canadensis*) is a pretty little plant, seldom more than six inches high, bearing in June a head of small flowers. These heads are surrounded by a sort of involucre, which is white or slightly pinkish and resembles the petals of a flower, so that the heads appear as one flower nearly an inch wide. The plant is quite pretty in flower, but much more attractive at this season, when the bright red berries are ripe. These are in dense heads, and are very showy. The plant spreads from subterranean creeping stems, and when established in a moist but well-drained loamy soil soon forms dense beds.

One of the most conspicuous of our wild flowers at this season is the Great Willow-Herb (*Epilobium angustifolium*), which is quite common in many localities. The plant generally attains a height of two and a half feet, but in some places, where the soil is rich, it is over six feet high. The flowers are in long spikes, one to several on a plant, of a pinkish-purple color and very showy. In localities where the timber has been burned off this plant often seems to take complete possession of the soil, and, when in flower, displays wide spaces of color. There is little difficulty in establishing it in any ordinary soil.

Eupatorium aquatoides (White Snakeroot) and *E. purpureum* (Joe-Pye weed or Trumpet-weed) are both in flower. The former grows from two to four feet high, bearing numerous heads of pretty white flowers. The plant seems to thrive in any moist soil. *E. purpureum* is a variable plant so far as size is concerned, sometimes attaining a height of ten feet, but usually not more than three or four. The flowers are in dense compound heads, purple or flesh-colored, and quite pretty. The plant is common in low, wet ground, but may be easily grown in any ordinary soil.

Of the many Golden Rods now coming into flower, *Solidago juncea* is the first, and is one of the prettiest. The stalks are about three and a half feet high, bearing dense heads of bright yellow flowers. The plant is one of the easiest perennials to grow, and will thrive in any ordinary soil. Another Golden Rod, which flowers a little later, is *S. nemoralis*, a smaller species, usually one to two feet high, with a dense, somewhat recurved panicle of rich yellow flowers. It grows in dry, sterile soil. All things considered, we think this the most desirable species for cultivation.

Helianthus decapetalus, one of the perennial Sunflowers which bloom at this season, is a very showy plant when it attains its maximum size. The stems are branching, often six feet high when in rich soil, and bear numerous large, showy yellow flowers two or more inches wide. *H. strumosus* is a smaller plant, two to four feet high, but with flowers much like the former, except that they are smaller. Both plants are desirable for cultivation and may be grown in any loamy soil.

Charlotte, Vt., August 13th. *F. H. Horsford.*

Orchid Notes.

Dendrobium rhodostoma.—This is an attractive bright-flowered hybrid, between *D. Huttonii* and *D. sanguinolentum*, very much resembling the latter in its growth. The stems or pseudo-bulbs are very slender, from two to three feet long, and from near the top of these the little bunches of flowers are produced. The flowers, which are about two inches across and well expanded, are white, with all the segments heavily tipped with rosy purple. Unfortunately, these do not last many days in perfection, but the plant is seldom out of bloom, for the old stems continue to produce racemes for many years. This plant grows very freely with liberal treatment, and is best suited to pot culture.

Cycnoches ventricosum, popularly known as the Swan's-neck Orchid, is now flowering freely, and, though not a showy kind, is the most attractive of the genus and well worth growing, not only for the quaint form, but also for the pleasing perfume of the flowers. The growth consists of stout, fleshy bulbs about one foot long, terminated by several thin, lanceolate, light green leaves. The large greenish-yellow and white flowers are borne on drooping racemes which spring from near the top of the bulbs, and last about three weeks in good order. This Orchid, as well as its congeners, will give satisfaction when grown in rich, open soil, in well-drained pots, supplied with abundance of water, in the warmest house; a little liquid manure will also be beneficial. As soon as growth is finished the plants should be removed to a cooler house, with plenty of air and sunlight. Water should be gradually withheld until all the leaves have dropped, and after this no water need be given, except to prevent shriveling, until the new growths appear, when the plants may be shaken out and repotted in new soil.

Saccolabium cæleste.—This is a comparatively new species and proves a great acquisition, adding another to the all too small list of so-called Blue Orchids. The habit of the plant somewhat resembles *S. curvifolium*, but is much stronger. The leaves being broader and thicker, and of a deep green.

It appears to bloom very freely, producing dense-flowered, erect racemes about eight inches long. The flowers are white with all the segments heavily tipped with light blue, though some varieties are much deeper colored than others. It is an attractive Orchid, a robust and free grower, and rapidly establishes itself with the usual treatment accorded this class of plants.

Trichopilia (*Pilumna*) *nobilis*.—This Orchid can hardly be called a distinct species, as it is nothing more than a larger and better form of the well-known *T. fragrans*, nevertheless it is a choice Orchid, and by no means common. It is a native of Peru, and grows very freely with the Odontoglossums, and, like them, requires abundance of water, though a little less may be given after growth is finished. The habit of the plant is clustered, with oblong, compressed bulbs, terminated by a large, broadly oblong, acute leaf. The radical scapes bear four to five large, pure white flowers, excepting for a dash of orange in the throat. These are very fragrant.

Kenwood, N. Y. *F. Goldring.*

The Hardy Flower-garden.—The garden looks especially gay just now with the Phloxes, Tritomas, Lilies, Gladiolus and many more all at their best. The double kinds of Delphinium, too, are remarkably fine. The named French ones are very double, and many are of good color, but they always seem to lack constitution, never living long, nurse them as we will. We are trying the plan of raising our own, and so far the results are good, fully ninety per cent. of the plants raised from the seed of double kinds producing double flowers, many of them equal to the best named kinds, and the plants are much more vigorous and produce longer and stouter spikes than imported ones. When selecting varieties for seed, it is best to pick off all the side branches and let the main stem remain. This will give it additional vigor, and the laterals usually produce flowers less double than those of the main stem. Our seed saved last year was sown in February, and the plants have now spikes of bloom two feet long. This success is, doubtless, due to sowing seed early and potting the plants off as soon as large enough to handle, and planting in their permanent places as soon as the weather becomes warm enough.

Of the Tritomas, John Benary, one of Lemoine's new ones, is always the first to flower with us. It has an immense flower of a bright crimson. The next best is *T. corallina*, with the most compact flower of all and the freest bloomer. The spikes are not so large as those of *T. uvaria*, but they are much more useful and effective for cut-flower work. The Hyacinth Lily, *Galtonia candicans*, is a valuable summer-flowering bulb; its tall spikes of pure white, pendent, bell-shaped flowers, make it a very conspicuous plant. We find it perfectly hardy; in fact the bulbs winter better in the open ground, provided it is well drained, than in the cellar. This is a plant readily increased from seed, and the bulbs reach flowing size the second year. Good bulbs produce as many as four spikes during the season, if the old ones are cut off as soon as they show signs of seeding, so that there is a continual show until frost puts an end to all out-door displays. One of the best things of recent introduction is *Platycodon Mariesi*, a dwarf form of the old *P. grandiflorum*; its distinctive qualities are that the flowers are as large again as in the old one, and that it does not exceed six inches in height. It is really a most useful plant. The great objection to the original form was that it was liable to produce flowers from the top only. This variety produces its blooms in abundance even on young plants; we measured some blooms which were two and a half inches in diameter.

Passaic, N. J. *O.*

The Dwarf Cannas raised by French hybridists are rapidly gaining favor here. It is only a year or two ago that they were first seen here at the exhibitions, but now they are largely grown at all the best nurseries, and are becoming widely known throughout the country. For several weeks past they have been a great attraction in the conservatory at Kew, where many visitors make their first acquaintance with them. Their noble foliage is always handsome, and, when this is accompanied by the tall spikes of large and richly-colored blossoms, as curious in shape as any Orchid, they are extremely attractive; in fact I do not know any Orchid so brilliant in color as some of these Cannas. They can, moreover, be grown by everyone who owns a green-house. [In this country they grow perfectly well out of doors.—ED.] They require no attention in winter, as they die down to their fleshy tubers or rhizomes, and when in full growth do not occupy much space on account of their dwarfness which is one of their chief merits. In one of our leading nurseries I made the following selections of sorts the other day after comparing them one with the other. One of the most striking kinds was Capricieux, flowers large, sepals broad, bright, orange-scarlet, margined with yellow; Admiral Courbet, citron-yellow spotted with scarlet, very showy; Louis Thibaud, brilliant vermillion; Victor Hugo, scarlet; Antonin Crozy, bright crimson; Geoffroy St. Hiliare, foliage stained with vinous purple, flowers vivid scarlet; Francisque Morel, crimson-red, and Madame Just, flowers, rich orange-yellow. There were several other sorts, but these, I thought, were the finest. All were vigorous in growth, and carried an abundance of bloom on spikes well overtopping the foliage.

Kew. G.

Dwarf Herbaceous Phloxes.—There is a race of French herbaceous Phloxes little grown in gardens, but which deserve wider cultivation. The one great fault of the herbaceous Phlox is its tall, ungainly and untidy habit, but in this newer race we have a dense, bushy, spreading growth, the plants rising but about two feet in height, and, in a few varieties, so densely smothered with flowers as to hide the abundant rich-green foliage. We made notes of a few good kinds in the Broxbourne Nursery, among them Bacille, flowers large, mauve-lilac in color, and the plant not more than two feet high; M. H. Jacotot, white shaded magenta towards the centre; La Ville de l'Air, white, with a clear purple eye; Mars, bright red; Colibri, pink shaded rose; and Foutcheau (whatever that may mean), pink with a carmine eye. The last-mentioned is a good flower spoilt by a foolish name. Such a race should become common in gardens. One clump was clothed to the ground-line with foliage, and spreading out on every side more like a shrub than a hardy, herbaceous perennial.—*The Garden.*

Correspondence.

Conifers for Planting on the Plains.

To the Editor of GARDEN AND FOREST:

Sir.—I use the time between the arrival and departure of my freight-train to send a few notes made while passing through Nebraska, stopping here and there. My object on this trip has been to note the progress and promise of timber-claim planting, and by the way to observe what coniferous growth may be expected to do on these plains and prairies when real timber-planting—not simply tree-planting for ornament, shelter or shade, or for land speculation—shall begin.

Men of broad views, and with no tree-seedlings to sell, either nursery-grown or pulled at the river-side, begin to appreciate that re-foresting the plains must become a national or state affair; at least that it cannot be done by private enterprise within this generation, and certainly not in such a systematic manner as is necessary to insure the best results in climatic amelioration. Co-operation and concentrated efforts alone will accomplish that.

But these questions of more general nature are too fruitful of argument to be discussed in a letter. Which conifers promise well in this region can more briefly be treated, since our experience, so far, is only very meagre.

When I started from Washington I was almost ready, unconditionally, to urge American trees only for American planting. In fact, I had advocated, on theoretical grounds, the introduction into the plains of Rocky Mountain conifers, especially *Pinus ponderosa* and *Pseudotsuga Douglasii*, which thrive naturally under climatic conditions not dissimilar to those prevailing here, and had not expected to speak of the Scotch Pine again in connection with American forestry; but I am compelled to say that at the first place where I had an opportunity to observe it side by side with eastern and western forms, which was in Crete, seventy-five miles west of the Missouri River, the Scotch Pine was decidedly the most promising tree, and next to it the Austrian Pine. There were in nursery-rows, four to five years planted, besides these two, *Pinus Strobus*, *Picea Engelmanni*, *Abies concolor* and *Pseudotsuga Douglasi*. The Europeans were thrifty, while all the Rocky Mountain tribe had lost their leaders; their terminal buds had been killed not this year only, but every year since they were transplanted, giving the trees an unsightly, ragged appearance. Only a few *Picea pungens*, which had been specially cared for and coaxed under shelter, had developed fairly. In the same town are found many Pines of older growth, planted in 1873. The Scotch and Austrian are perfect, with annual shoots of two to three feet, as straight and well-proportioned as the best in their native land, without a flaw, and it would be difficult to tell which of the two to choose as regards thriftiness. There was also one White Pine, grown in the shelter of

the other Pines, which seemed to be just as much at home, while in the nursery the young plants had a jaded look, and were browned more or less under the hot blast which passed this region in May.

Thus discouraged, in regard to the Rocky Mountain trees, I went westward with little hope of finding much worth noting, but was most agreeably surprised at Franklin, fifty miles east of the one hundredth meridian, where an enterprising man has begun systematically to test the possibilities of Rocky Mountain conifers. Rev. C. S. Harrison is one of those hardy and hearty men of the West, full of vigor, will and push, bound to succeed, if success is attainable. The sight which met me at his nursery was astonishing, indeed, when the locality is considered. Here could be found more conifers in one spot than anywhere on the plains west of the Missouri. Nothing had been planted longer than four years, it is true, but here were not a few trial-plants only, but a nursery of conifers, in all stages, from the seed-bed to the six-year-old transplants. A space of 100 feet square protected all around by a loose board fence, and, shaded by a brush-roof, serves the purpose of starting the plants, either from the seed or from seedlings, carefully taken from their native haunts. Under this shed, as well as in the open, the Scotch Pines showed the thriftiest growth; the Austrians, though no beauties, were also well at home. Neither of these, and but few of the former, showed any loss of terminal-bud, the oldest transplants being six-year-old Scoth Pines, which had made this season shoots of from fifteen to twenty-five inches, and were now four to six feet high.

Under the shed the Engelmann Spruces were of the finest appearance, the Douglas Spruces next, while *Abies concolor* made only an indifferent show, and *Picea pungens* was, perhaps, still worse.

The sturdy *Pinus ponderosa*, which was present in many specimens under the shed, and freshly transplanted into the open, had not yet put on its best style, but when a lot of them were shown to me, neglected and overrun, almost smothered by grass, and yet as fine Pines as ever carried a head, I had to subscribe to Mr. Harrison's prophetic expression that this tree is destined to furnish the saw-logs of the coming forest of the plains.

I must not forget to mention the hardiest of the hardy, the ubiquitous Juniper, which, although hardly to be recommended as a forest-tree in this latitude, is probably the most reliable ornamental conifer here. The Rocky Mountains furnish it with a beautiful silver sheen added.

The last conifers met, save an Arbor-vitæ hedge, freshly planted by an enterprising settler at this place, were grown under the inspiration of the water-works of McCook, the "Magic City of the West," being fairly within the arid region, and yet converted into a garden-spot by its energetic population, who have spared nothing in ornamenting their homes and streets.

Two Scotch Pines at the depot, twelve years old, and several younger specimens in town, still recommend this species for ornamental planting. The White Pines, with the exception of one specimen, were all out of the race; a number of Norway Spruces, low and stubby, yet showed fairly well, while two stunted Blue Spruces had not been able to save their terminal-buds. This failure of the terminal-bud, which is the common injury, not only to the conifers, but to most trees in the plain, and which accounts somewhat for their crooked appearance Mr. Harrison hopes to overcome, by proper treatment and "schooling" under the shed and in the nursery for six years, having observed that this same loss is frequently sustained even in the native forest, and afterward outgrown. But while such treatment may be practicable for ornamental plants, for forestry purposes we would not be able to apply it, and it remains questionable whether the damage would be outgrown in time on the plains.

The Bull Pine (*Pinus ponderosa*) alone seems to be the one native conifer which, so far, promises to serve as a timber-tree of these wind-swept tables.

Stratton, Neb. *B. E. Fernow.*

Direct Influence of Pollen on the Orange.

To the Editor of Garden and Forest:

Sir.—In spite of what some botanists set forth as Nature's unvarying law, the question of the immediate and direct influence of pollen on fruit should, in the matter of the Orange and Lemon and all Citrus fruits, be considered as one which has been settled.

For weeks each season I have been carefully examining the exterior and interior of oranges growing on Maltese Blood-trees and on the Imperial Blood of the St. Michael family, which have a navel mark not common to either family. I have singled out these two families of the Blood Orange with the navel mark because I consider the three oranges as the best of all oranges, and have made careful experiments for years hoping and expecting to combine in one orange the superior points of the Blood and the Navel.

These Blood oranges having the navel mark are completely changed in outline, in their exterior and all through by the effect of the pollen of the Navel-trees. From being naturally oblong, they become somewhat flattened, the flavor is changed and the cellular form of the pulp is changed.

Of twenty oranges having a navel mark recently cut from a Maltese Blood-tree standing beside a Washington Navel-tree, only two of the oranges had a single seed, eighteen were seedless, while nineteen in twenty of the Bloods which were not marked by the navel had one or two seeds. Not always does the pollen of the Navel show its effect in the lengthened axis. Sometimes you find an orange shaped like the Navel except the umbilical mark is wanting on the outside. Inside there is no axilar centre; the inner orange has spread all through the fruit. There are two sorts of pulp, two sorts of fruit-cells and two separate and distinct flavors.

A few times I have seen an orange cut from a Majorica-tree, one side almost solidly colored, like an Imperial Blood, pulp dark as wine; the other side not a trace of rubricate, the divisions of fruit-cells as distinct and clear as though they had been fenced off by an impassable dividing-line. One side the decided piquant flavor, sub-acid, that a thirsty man gratefully remembers on a hot day; the other, the fruity-flavor of a Strawberry or Black-cap raspberry, with juice quite as dark as that of the latter berry. Such an orange I cut at Ocala, during the Exhibition, last winter, and observing visitors noted the difference in flavor as well as strong contrasts in color in the two sides of the same orange.

Sometime later I cut a Prata orange, such as L. W. Sherman, of Boston, sells for "whites," because the rind is a pale lemon color. I noticed before I cut it, longitudinal, single rows of rubricate oil cells, running from flower to stem as straight as the lines of longitude on a school globe. The opposite cheek of the orange had splashes of them, giving a beautiful contrast to the pale-lemon shade. I was not surprised to find in the pulp, usually as pale and white as a Villa Franca lemon, rubricate tints.

I then went to the row of trees on the opposite side of the Blood Oranges, and soon found on one of the outside branches of the Ribbed Du Roi, an orange well marked as a Du Roi save the blossom end, which was a well-defined Blood. I cut and found a more deeply-colored orange than the average Bloods with not a seed, although the Du Rois are not wanting in seeds.

Among the ornamental dwarf Orange-trees at Belair, President Berckmans, during a visit last winter, called attention to one found with rind not unlike the shell of the old Crook-neck squash when ripe, the exact counterpart of which he had seen on a tree in a distant part of the grounds. The distant tree originally came from Japan and has not been bearing more than three years. I know such oranges were never seen there on the tree on which he saw it till this one strange tree began to bloom and bear fruit. Now tracks of this ribbed and warty fellow are again and again seen on the other trees.

In March last I cut a cluster of five oranges from the tree sent me by Wm. Saunders, Superintendent of the Grounds of the Agricultural Department at Washington, labeled Bahia. The cluster looked precisely like similar clusters growing on an adjoining St. Michael tree. Cutting them all, I could see no difference in seed or flavor from the St. Michaels; the same sharp acid, the thicker, rougher and tougher rind than that of the Navels—not a thing to remind one that the sap of a Navel-tree nourished those five St. Michael Oranges.

Some years since I procured from A. W. Rountree, of New Orleans, the Double Imperial Orange. I budded a number of trees from the tree he sent. They bloomed fully for the first time last February and March. The past summer and autumn I found again and again oranges on adjoining trees so exactly like the real Double Imperial that the novice would say they were the same. This orange (the Double Imperial) has an exterior, as E. H. Hart says, *sui generis* and quite distinct from most oranges. It has as much pollen (yellow, too) as any Orange-bloom I ever examined. It is one of the coming oranges for Florida.

Meanwhile let me say, a race of oranges which can completely metamorphose whatever other variety its pollen touches must be most prepotent indeed. Out of the two strains, the Navel and the Imperial Blood, will come the future orange, which the intelligent lovers of the queen of

fruits will say are the best. Their price will depend on the conscience of the seller. Note that Palermo Imperial Bloods, on March 1st, sold in Boston at $4.35 a box, when average Palermos sold at $1.50 and less. *Lyman Phelps.*

[The phenomenon of the direct influence of foreign pollen upon the fruit of various plants has long interested naturalists. It is a matter of much practical importance, too, to horticulturists, if certain fruits, especially those belonging to the Squash and Melon family, change and deteriorate, as some assert, by the influence of the pollen from other plants of the same family acting upon the ovaries from which these fruits develop. Persons interested in the subject will find a summary of what is known about it in a paper by M. Maximowicz published in the journal of the Royal Horticultural Society, new ser., iii., p. 161. See also Darwin's "Animals and Plants Under Domestication" (English ed.) i, 39; Asa Gray in *American Journal of Sciences and Arts*, 2 ser., xxiv., 442, and Darlington's "Fl. Cestrica," 2 ed., p. 555.—ED.]

The Chinese Quince.

To the Editor of GARDEN AND FOREST:

Sir.—We send you a branch from one of our plants of this species in response to the suggestion (GARDEN AND FOREST, ii., p. 389) that "it would be interesting to know if this handsome plant is cultivated anywhere successfully in the United States."

When the senior member of our firm settled in Germantown, in 1852, he found a specimen possibly twenty feet high, and with a trunk eighteen inches thick—giving these figures from remembrance of the specimen only—on the grounds formerly owned by a Mr. Sickles, but about that time purchased by Mr. E. H. Butler, the founder of the well-known publishing firm of E. H. Butler & Co. It was a bushy specimen, with branches nearly to the ground. It produced its large oblong fruit but sparingly. From our subsequent experience with its rate of growth, that specimen must have then been at least twenty-five or thirty years old. No one could tell how it came there. It is remarkable that at that time there were found other rare Chinese plants in Germantown gardens. Among them the *Rosa rugosa*, which has again been introduced within recent years, and which is still growing where it then grew, on the grounds about the Chew House, so famous in the history of the struggle of the Colonies against Great Britain. We have always credited the old firm of W. R. Prince & Co. with these introductions, because some rare things have been traced there, planted in the early part of the present or toward the end of the past century.

The habit of the Chinese Quince is fastigiate. Its great beauty is in the color of the autumn leaves, which is fully equal to that of the Tupelo, or Sour Gum, or Black Gum, as it is variously called. When our nurseries were founded in 1852, it was one of the first to go in the collection. It has been in every edition of our catalogue since that time, except our last, the compiler dropping it by a lapse of the pen through momentarily classing it with the "Pyrus," leaving out "Cydonia" in brackets, as often written. It is still there as *Pyrus Sinensis*, though that name properly belongs to the Sand Pear. Of the trees planted on our grounds prior to 1860, one remained to reach over twenty feet in height, when it fell a victim to public improvement, as it stood near the line of what is now Meehan Avenue in our city list of streets. There ought to be hundreds throughout the country distributed from our nurseries during the past thirty years. We fancy it must fruit freely in Virginia, as we frequently have specimens sent or brought from there by parties anxious for its name, as its large, delightfully-scented fruit attract the curious.

In conclusion allow us to thank GARDEN AND FOREST for the excellent work it is doing in bringing to notice the numerous beautiful things well adapted to our climate, of which a few have knowledge. There are probably between two and three thousand species or marked varieties of trees and shrubs that are hardy through the central states, the number, of course, increasing or diminishing as we go south or north, and which, if introduced and made known, would render American parks and gardens superior in variety to any others in the world. No nurseryman can catalogue or describe these properly. It would require the expense of a heavy volume. Only journals such as GARDEN AND FOREST, or societies such as the Massachusetts Horticultural Society, can do much in this line—and what both of these have done and are doing is worthy of all praise.

Germantown, Pa. *Thomas Meehan and Son.*

To the Editor of GARDEN AND FOREST:

Sir.—Nearly twenty years ago Dr. George Thurber wrote in the *American Agriculturist* (December, 1871): "We do not know how so many Chinese Quince trees become distributed about the country without the owners of them having their names. For several autumns, including the one just past, we have received a number of fruits from different points in the vicinity of New York to be named.

"This year one of them remained on exhibition at our office for several days, where it attracted much attention from its novel shape. We have had the fruit and leaves engraved at about half the average natural size. The tree grows in a spreading form, and reaches the height of about twenty feet.

"The leaves are quite unlike in appearance to those of the common Quince, being of a dark green with a shining surface. The flowers are rose-colored with a violet odor, becoming darker with age, and makes the tree quite ornamental in spring. The fruit is irregularly egg-shaped, green and very hard and dry. We do not know that any use can be made of the fruit, but it is quite conspicuous and ornamental when upon the tree. The botanical name is *Cydonia sinensis*. We do not find the plant in any of the catalogues of our leading nurserymen, and cannot say where it may be procured."

Most of what is stated above is as true now as it was then. Many persons, otherwise well informed in horticultural matters, are entirely ignorant about the existence of this fruit. It is strange that a tree which combines so many good qualities is not more widely known. In Virginia and further South the tree reaches a height of some thirty feet. Under favorable conditions, the fruit grows to a very large size, single specimens reaching a weight of from two to two and a half pounds.

It has a very firm flesh, which, we are assured by reliable authority, makes an excellent preserve and jelly of a beautiful pink color. As the tree is a profuse bearer, it seems strange that its cultivation has been so much neglected. In Virginia and other localities where the fruits mature every year, the growing of the Chinese Quince and the manufacture of preserves from it could no doubt be developed into a profitable industry.

New York. *F. M. Hexamer.*

Strawberry Plants for a New Bed.

To the Editor of GARDEN AND FOREST:

Sir.—The mode of growing superior Strawberry plants adopted by J. M. Smith, of Green Bay, Wisconsin, and detailed in full in GARDEN AND FOREST of August 7th, commends itself not only to the sober thought of all interested, but also agrees with the experience of those who have pursued the plan of propagating the new plants from strong and vigorous ones that have not been allowed to bear fruit and thus to partially weaken their reproductive force. There is no doubt that in all cases (other things being equal) this mode will produce better plants, and, consequently, a better yield of fruit the following season.

One of my neighbors has pursued this course for a number of years, and he has thus been enabled to retain in good bearing order and in a healthy condition that most excellent old variety, "Boyden's Number Thirty," when all the growers in the neighborhood of its early home, Irvington, New Jersey, were obliged to discard it on account of its deterioration. It is still true that like begets like, and in order to produce strong and hardy plants you must have vigorous stock to work from.

Newark, N. J. *C. L. Jones.*

To the Editor of GARDEN AND FOREST:

Sir.—Referring to Mr. Horsford's note on the Swamp Milkweed (*Asclepias incarnata*), let me say that there is a variety of this species with white flowers. Not long ago I came upon a few plants of this sort, and the umbels of white flowers were most attractive.

Arnold Arboretum. *Jackson Dawson.*

Recent Plant Portraits.

Botanical Magazine, July.

PANDANUS LABYRINTHICUS, *t.* 7063, a handsome species, native of the Malay Islands, which has flowered and fruited at Kew, its striking ovoid heads of fruit being particularly noteworthy.

SYRINGA VILLOSA, *t.* 7064, the Lilac from North China, which was figured in this journal (i., 521, fig. 83).

OLEARIA MACRODONTA, *t.* 7065, one of the Daisy trees of New

Zealand, and the most conspicuous one from the great abundance of broad white corymbs, which terminate every branchlet and cover the plant with a sheet of flowers. The tree is twenty feet high, with spreading branches, smelling faintly of musk.

Disa lacera, var. multifida, *t.* 7066, a beautiful blue flowered species.

Encryphya pinnatifolia, *t.* 7067, a small, bushy Chilian tree, with pinnate leaves and flowers like large, single white roses. After the petals fall away the stamens persist, and are themselves very ornamental.

Notes.

The Japanese *Platycodon Mariesi*, of which mention is made in another column of this issue, is highly commended as a plant for the rock-garden in English horticultural papers.

Governor Green, of New Jersey, has appointed Andrew J. Fuller, Professor Byron D. Halsted and W. A. Stiles as delegates from that State to the meeting of the American Forestry Congress, to be held in Philadelphia in October.

The officers elected by the Society of American Florists for the year are as follows: President, J. M. Jordan, of St. Louis; Vice-President, M. H. Norton, of Boston; Secretary, William J. Stewart, of Boston; Treasurer, W. H. Hunt, of Terre Haute.

A National Chrysanthemum Society was organized last week, with John Thorpe, of Pearl River, New York, as President; William K. Harris, of Philadelphia, Vice-President; Edwin Lonsdale, of Philadelphia, Secretary, and John Lane, of Chicago, Treasurer.

The Society of American Florists presents the name of Dr. Hexamer as the executive head of the agricultural part of the World's Fair in 1892. Dr. Hexamer is widely known as editor of the *American Agriculturist* and as one of the leading authorities in the country on pomology. Mr. John Thorpe was, of course, recommended by the same body to represent the interests of floriculture.

A very neat plant for rock-work or border is *Plumbago Larpentæ*, which is now covered with its intensely blue flowers. It is perfectly hardy in this latitude, spreads rapidly and soon covers a large space, running with wiry stems in a half-prostrate way and never attaining more than six or eight inches in height. It starts late in spring, but begins to bloom here in early August, and continues to flower abundantly till freezing weather.

Plants of a so-called White Huckleberry (a variety of *Gaylussacia resinosa*) sent to the Arnold Arboretum last year by Mr. B. W. Westbrook, of Montague, New Jersey, bore a small quantity of fruit this season. When ripe the color is a yellowish-white on the under side, deepening to a pale crimson on the side exposed to the sun. As is the case with white or light-colored varieties of many other fruits, the berries of this are much sweeter than the typical black fruit which it resembles in size and other respects.

The London *Garden* protests against the irrational desire to increase the size of many flowers. One of the prettiest things that have suffered in this way is the Petunia; the most free blooming and constant of summer flowers is spoilt by this absurd desire for size. The huge flimsy blooms, too heavy to support themselves, are the perfection of ugliness, and show the flower in a false light. When a bed of this large-flowered strain is planted out in a somewhat exposed position, where the Petunia under ordinary conditions would do well, the thin, weak blooms cannot withstand the wind that would leave unharmed a strain of medium size and decided colors. The African Marigold is another case in point. The huge globe-like flowers are as ungraceful as it has been possible for the florist to make them, and yet he is not content even with this extreme and unnatural development, but aims at still further "improvement." It is the same with the Hollyhock, tuberous Begonia, Chrysanthemum, Pansy, Balsam and many another garden flower; all are in danger of permanent disfigurement by this crazy fashion.

At Headingley, not far away from Leeds, still stands an ancient Oak-tree "which is believed by devout antiquaries to have been part of the ancient forest which may have given its name to the town. The tree certainly gave its name to the 'wapen-take' Skyrack (Shire-Oak), and it may have witnessed in successive ages the horrible rites of the Druids, the assemblings of local crusaders, and the markets of thrifty cloth-workers. Be that as it may, the Oak even in its decay is regarded with veneration. Winter storms have done much to shear it of its mighty proportions, for Whitaker's drawing in 1816 shows a more stately wreck than that of to-day. The last great branch fell in 1883; a portion of it was sold for £100 to furniture-makers, and the old man who owns the remains of the trunk has been offered £200 for them as they stand. His joy in the tree is more to him than the money, but there is some fear lest his successors may take a more mercenary view." An illustration from a recent drawing shows us an immensely massive and still lofty trunk, devoid of all but the stumps of branches and with a hollow, like a great arched doorway, yawning in its side, but still clothed to a considerable extent with fresh sprouting foliage.

In the *West American Scientist* Mr. Edward Palmer writes entertainingly of the fruit of the Opuntia, or *Tuna*, as it is called in Mexico, where it forms the principal article of food for many of the natives during several months of the year. The Tuna of the Mexicans must not be confounded with the Opuntias found in southern California and Arizona. Many valuable varieties of Opuntia are found growing in the Cactus-belt of Mexico, and seeds of some of the most desirable were furnished originally by the United States Department of Agriculture. When new varieties are produced by artificial crossing and selection as great improvement may be expected as has been made with other cultivated fruits, but the different varieties now have no distinctive names. This Cactus requires little care, and thrives on almost any soil, but it reaches its best condition on the table-lands of Mexico. A piece of the plant laid on the surface of the ground will take root and grow; it will endure considerable cold, and the most protracted drought only seems to increase the sweetness of the fruit. When gathered, the fine spines on the surface of the fruit must be removed, so that it can be handled without inconvenience. The skin is then removed, leaving the pulpy meat exposed in a most tempting manner. It is specially adapted to the breakfast-table, having something of the Watermelon flavor, with a suggestion of Strawberry. Tuna is abundant and cheap in the market from June till November. It is finding its way along the frontier of the United States, and is already on sale in Jacksonville and other southern cities.

The *Gardeners' Chronicle* reports that at the Paris Exposition many of the South American republics show specimens of the product known locally as Yerba Maté, or Paraguayan Tea, and derived from the torrified leaves and stalks of different species of Ilex. It is exhibited in packets and in original bales of green hide. This is the dietetic beverage of about 20,000,000 in South America, and its popularity is shown by the exhibits in the various pavilions of the Argentine Republic, Paraguay, Uraguay, Brazil, Chili, Bolivia, etc. It is difficult to get at any reliable returns as to the entire traffic in this commodity, the production of which is carried on in such a desultory and wide manner, and extends over so vast an area of wild country where the Holly-trees flourish. In the Argentine Republic the consumption is over 35,000,000 pounds, against 5,000,000 pounds of Coffee. In Paraguay the production of Mate is about 5,000,000 pounds; from Brazil there is an export of 65,000,000 pounds to neighboring states, while the local consumption is about half as much. This is singular in the great Coffee-producing centre of the world, which sends into commerce annually more than half the entire production of Coffee. Strong efforts are being made to open a trade with it in Europe, especially in France, where shops advertise and recommend it. Whether this will succeed remains to be seen, looking at the increased production of Tea and the enormous increase in its sale in Europe. Approaching in its chemical composition to Coffee and Tea, it is asserted that it does not cause wakefulness or prevent sleep. In the rural districts, as well as in the smaller towns, this beverage is considered a regular form of diet, and not, like tea, a mere accompaniment of the breakfast-table. It is sweetened with sugar until it almost becomes a syrup. It is sold at twopence to fourpence per pound, and one pound will produce about twenty quarts of infusion. It is sometimes flavored with Cinnamon, Orange-peel or Lemon-juice.

Catalogues Received.

P. J. Berckmans, Fruitland Nurseries, Augusta, Ga.; Fruit and Ornamental Trees, Hardy Evergreens and Roses.—L. J. Farmer, Pulaski, N. Y.; Strawberries.—P. H. Foster, Babylon, N. Y.; Forest Trees, etc.—Gardner & Sons, Osage Nursery, Osage, Ia.; Fruit and Ornamental Trees, Evergreens, etc.—Schlegel & Fottler 26 South Market Street, Boston, Mass.; Bulbs, Roots, Plants, etc.